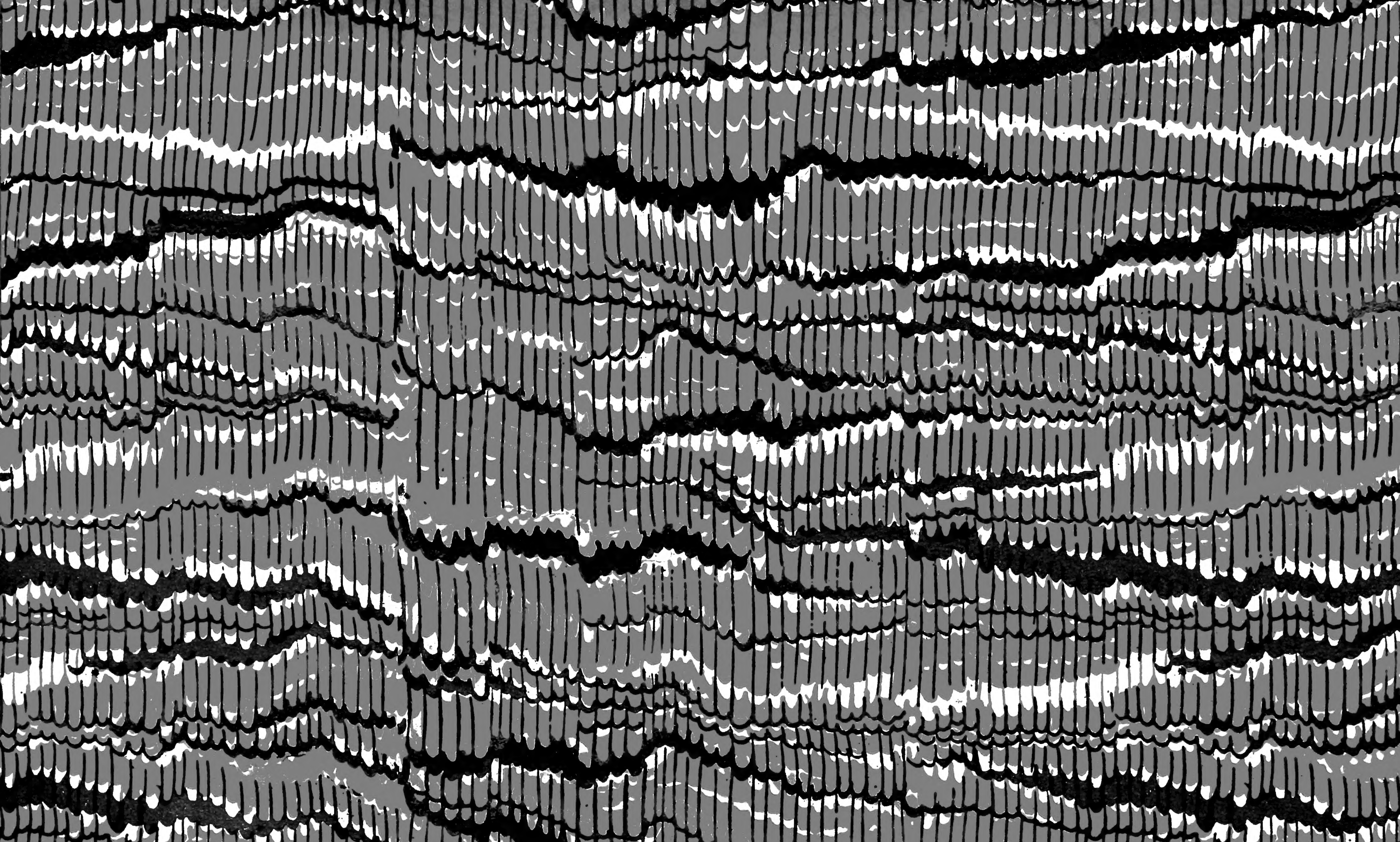

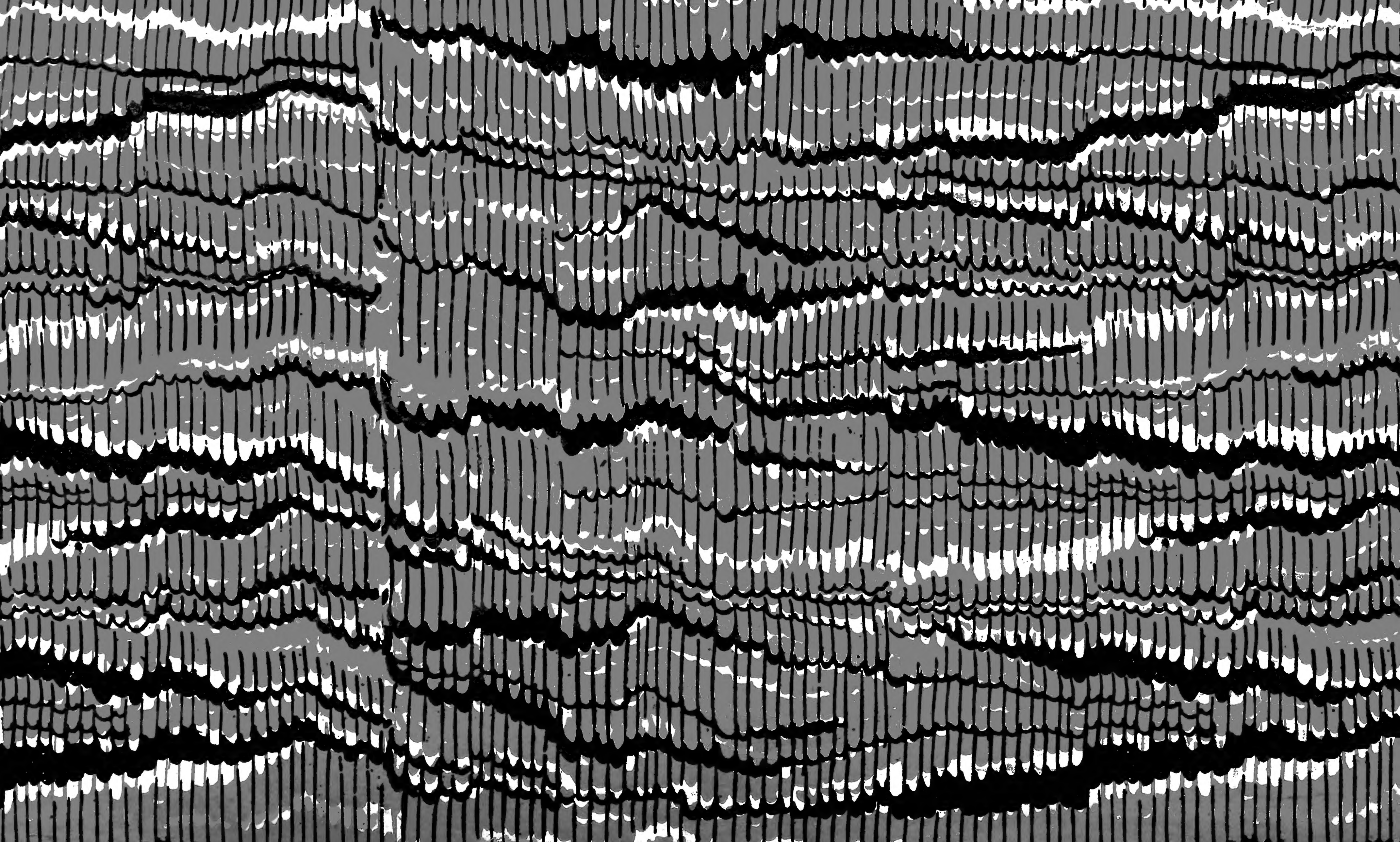

VI.—SOME FURTHER OBSERVATIONS ON THE FOOD OF FISHES, WITH A NOTE ON THE FOOD OBSERVED IN THE STOMACH OF A COMMON PORPOISE.

[Reprint from Twenty-first Annual Report of the Fishery Board for Scotland—Part III.—Published July 20, 1903.]

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VI.—SOME FURTHER OBSERVATIONS ON THE FOOD OF FISHES, WITH A NOTE ON THE FOOD OBSERVED IN THE STOMACH OF A COMMON PORPOISE.

By Thomas Scott, LL.D., F.L.S.

In my paper on the food of fishes published in Part III. of last year's Report,* I gave the results of the examination of fishes belonging to fifty-six different species. In the present paper twenty-two species are represented, sixteen of which are teleosteans and the others Rays and Dog-fishes. Their names are as follow:—

Sebastes norvegicus (Ascan.).	The Norway Haddock.
Trigla gurnardus, Lin.	The Grey Gurnard.
Lampris luna (Gmelin).	The King Fish.
Anarrichichas lupus, Lin.	The Cat or Wolf-fish.
Lumpenus lampetræformis (Walbourn).	The Sharp-tailed Lumpenus.
Mugil chelo, Cuvier.	The Grey Mullet.
Labrus mixtus, Lin.	The Striped Wrasse.
Gadus luscus, Lin.	The Whiting Pout or Brassie.
„ *esmarkii*, Nilsson.	The Norway Pout.
Molua molva, Lin.	The Ling.
Onos cimbrius, Lin.	The Four-bearded Rockling.
Ammodytes tobianus, Lin.	The Lesser Sand-eel.
Drepanopsetta plattessoides (Fabr.).	The Long Rough Dab.
Pleuronectes cynoglossus, Lin.	The Witch-sole.
Argentina sphyræna, Lin.	The Hebridean Smelt.
„ *silas* (Ascanius).	The Greater Argentine.
Raia batis, Lin.	The Grey Skate.
„ *fullonica*, Lin.	The Shagreen or Fuller's Ray.
„ *radiata*, Donovan.	The Starry Ray.
„ *circularis*, Couch.	The Cuckoo or Sandy Ray.
Squalus acanthias, Lin.	The Picked Dog-fish.
Scylliorhinus canicula (Lin.).	The Lesser Spotted Dog-fish or Rough-hound.

These fishes are referred to in the sequel in the order in which they are given here.

At the end of the notes on the food of these fishes I describe the results obtained by the examination of the food found in the stomach of a common Porpoise cast ashore last year in the vicinity of the Laboratory.

Sebastes norvegicus (Ascanius).

Three *Sebastes*, measuring $11\frac{1}{4}$, $11\frac{1}{2}$, and $12\frac{1}{2}$ inches respectively, and captured in the North Sea in December 1901, had apparently been all feeding on soft animal substances (probably Annelids), for though each of their stomachs contained a quantity of food, there was nothing to show satisfactorily what it consisted of. Had it consisted of Crustaceans, shell-fish, or fish, even considerably digested, the remains of the harder parts, or some of them, would have afforded an indication of the nature of the food.

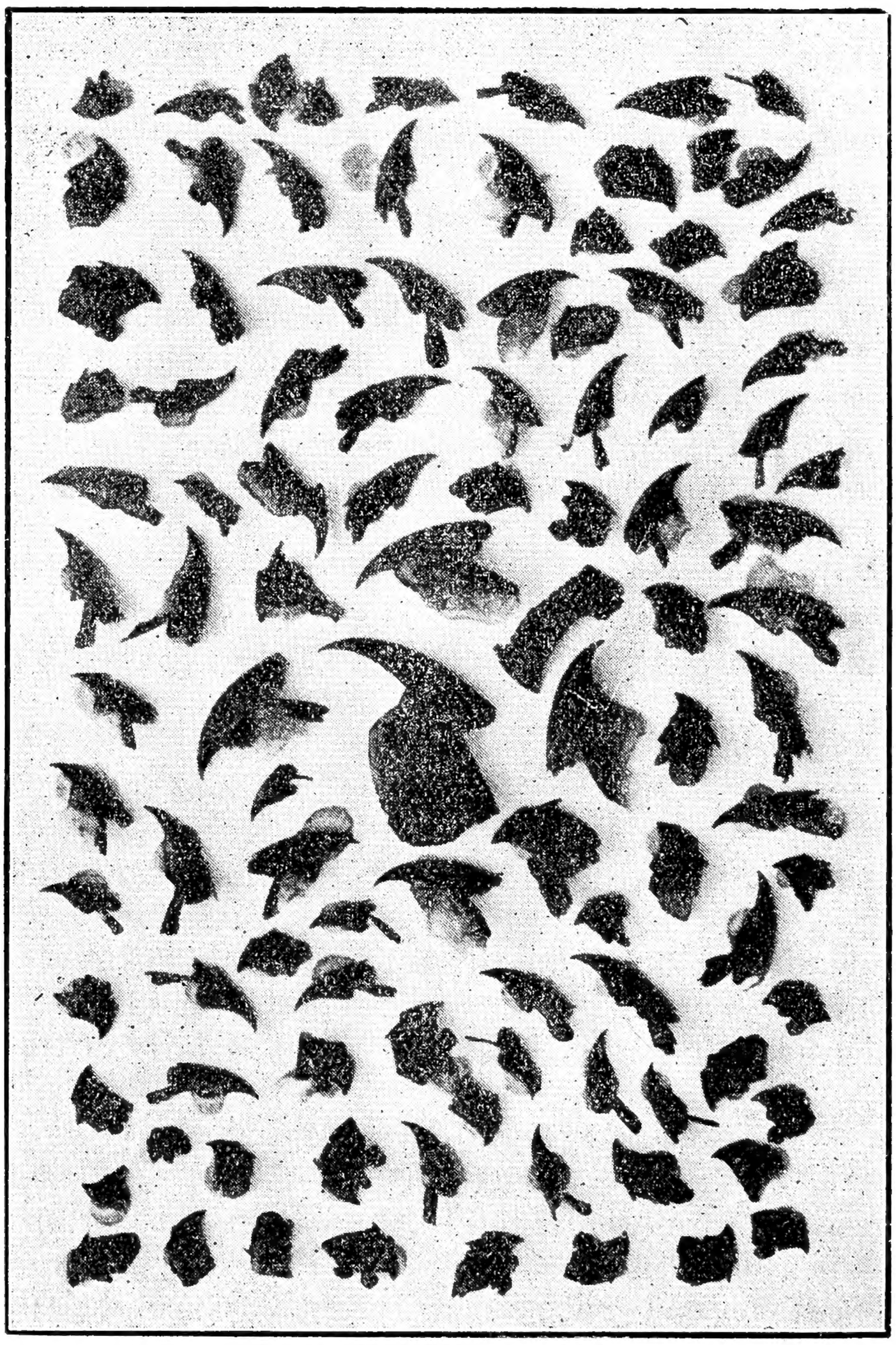
* *Twentieth Annual Report of the Fishery Board for Scotland*, Part III., p. 486.

Trigla gurnardus, Lin.

The stomachs of four Grey Gurnards were examined in March 1902. The fishes measured $10\frac{1}{8}$, $10\frac{3}{4}$, $11\frac{5}{8}$, and $11\frac{3}{4}$ inches respectively; one of the stomachs contained six specimens of *Crangon allmanni* and the remains of a young Clupeoid; another contained fragments of *Crangon* and the remains of small Clupeoids; in the stomach of the third were the remains of Crustaceans and small fishes, but too imperfect for identification; while the fourth contained nothing that could be identified.

Lampris luna (Gmelin).

A King-fish, *Lampris luna*, was captured at Shetland on October 20th, 1900, and was forwarded to the Fishery Board's Laboratory at Bay of Nigg. I had the privilege of examining the stomach of this fish, and found that it had been living exclusively and largely on Cephalopods; unfortunately none of the Cephalopods were perfect enough for identification, the soft parts being scarcely recognisable. The horny



jaws of the creatures had, however, been able to resist to a large extent the solvent action of the digestive fluids, otherwise the determination of the food would have been almost impossible. The number of Cephalopod jaws found in this stomach was 108, and, as each Cephalopod has

one pair of jaws, the number of these molluscs which had been recently captured by the King-fish would therefore amount to fifty-four. A few of the jaws were of a moderately large size, but the majority were apparently those of small specimens. Amongst the digested matter contained in this stomach were also a few things that looked like the partially-dissolved cartilaginous shells of Cuttlefishes, but they were so imperfect that no use could be made of them for the purpose of identification.* The jaws, after being mounted on a slide, were photographed by Dr. Williamson, and the accompanying figure is reproduced from the photograph.

Anarrhichas lupus, Lin.

The stomachs of eight Cat- or Wolf- fishes were examined ; the sh were captured in the Moray Firth on May 16th, 1902, and were all of moderately large size. The following is a note of the contents of each of the eight stomachs:—

(1.) Fragments of a large Crab, *Cancer pagurus*, and of *Ophiura* sp.
(2.) Part of a large *Buccinum undatum*, and several large specimens of *Ophiura ciliaris*.
(3.) Fragments of several large *Solen siliqua*, the shell of a *Natica* containing a small hermit Crab, and a specimen of *Hyas coarctatus*.
(4.) Fragments of a moderately large *Cancer pagurus*, of *Solen siliqua*, and of *Cardium echinatum*, and a specimen of *Aphrodite aculeata*.
(5.) Remains of *Solen siliqua*, *Natica* sp., *Eupagurus bernhardus*, and *Hyas coarctatus*.
(6.) Fragments of *Eupagurus bernhardus*, and of several *Ophiuræ*.
(7.) Fragments of *Natica* sp., and *Venus lincta*, and of a large *Eupagurus bernhardus*. Eighty-two specimens of Star-fishes. *Ophiura ciliaris* (Linn.). Some fragments of *Echinocardium* sp. (probably *E. cordatum*). A specimen of *Aphrodite aculeata* and a fragment of a Zoophyte.
(8.) Remains of five *Natica* sp., and of *Littorina littorea*. Two *Eupagurus bernhardus*, and forty-four specimens of *Ophiura ciliaris*, all more or less complete.

Lumpenus lampetræformis (Walbaum).

The food observed in the stomach of a Sharp-tailed Lumpenus captured on the Fisher Bank consisted almost entirely of smail Crustacea, the following species of which were identified :—*Leucon nasica*, *Diastylis resima*, *Bythocythere simplex*, *Macrocypris minna*, *Cytheropteron* sp., and *Robertsonia tenuis*. Two specimens of *Cyclichna nitidula*, and one or two *Operculina ammoides*, a species of Foraminifera, were also noticed. The *Lumpenus* is a fish that appears to live on or near the bottom, and it is to be expected that demersal organisms rather than pelagic will constitute the chief part of its food.

* Dr. T. Wemyss Fulton, in his "Ichthyological Notes" in Part III. of the *Nineteenth Report* of the Fishery Board for Scotland, also incidentally refers to the large number of Cephalopod mandibles observed in the stomach of the King-fish.

Mugil chelo, Cuvier.

A Grey Mullet about 14½ inches in length, captured by the salmon fishers at the Bay of Nigg on March 14th, 1902, and which was kindly handed over to the Laboratory for examination. It belonged to the same species as those obtained in the Bay last year, viz. *Mugil chelo*. There was some food in the stomach of this specimen, but it was too much digested for satisfactory identification.

Another specimen, captured on the 11th of June, had also in its stomach very little food that could be identified, the only organisms satisfactorily distinguished were one or two *Temora longicornis* and a number of specimens of the Cypris stage of *Balanus* sp.

Labrus mixtus, Lin.

A specimen 12½ inches in length was captured 15 miles north-east from Tiumpan Head, Lewis, in 70 fathoms, in May 1902, and sent to the Laboratory at the Bay of Nigg for examination. The stomach of this specimen contained nothing perfect enough for identification, but in the intestines were found the vertebræ of fishes, fragments of molluscan shells, and some small rounded stones.

Several specimens of *Clavella labracis*, v. Beneden, were obtained on the gills of this *Labrus*.

Gadus luscus, Lin.

Several specimens of the Whiting Pout, varying in length from 7¾ to 11½ inches and captured off Aberdeen in January last year, appear to have been feeding chiefly on Crustaceans. The food found in the stomach of the smallest specimen (7¾ in.) consisted of the remains of Annelids, belonging apparently to the Chætopodæ, and of fragments of Schizopoda and Amphidoda, but the only organism that could be satisfactorily identified was a male specimen of *Erichthonius hunteri* (Spence Bate). A Whiting Pout 9½ inches in length had in its stomach four small Cephalopods (*Rossia? macrosoma*, Delle Chiage), and a specimen of *Pandalus montagui*, Leach. In the stomach of another 10 inches long were the fragments of what appeared to be *Spirontocaris securifrons*, Norman. Fragments of what looked like *Schistomysis inermis* were observed in the stomach of another 10½ inches in length; while in the stomach of the largest of these Whiting Pouts were found *Crangon allmanni*, Kinahan, *Pandalus montagui*, Leach, and *Pandalina brevirostris* (Rathke)—the length of the fish was 11½ inches.

Gadus esmarkii, Nilsson.

A considerable number of Norway Pouts captured in the North Sea have been examined, but as there was a good deal of similarity in the contents of their stomachs, only a few are particularised here. Small Crustaceans were largely represented amongst the contents of their stomachs, bnt Schizopods, *Parathemisto* and pelagic Copepods were more frequently observed than other members of that group, as shown by the following sample of the fishes, which ranged in length from about 5½ to 6¾ inches.

Length of Fish.	Contents of Stomach.
inches	Numerous small Schizopods, genus and species doubtful, *Temora longicornis*, few.
$5\frac{3}{4}$,,	Numerous small Crustaceans, which look like *Temora longicornis*, but too imperfect to be satisfactorily determined.
$5\frac{3}{4}$,,	Several *Parathemisto oblivia.*
6 ,,	This contained nothing that could be identified.
$6\frac{1}{2}$,,	Remains of small Schizopoda and a number of *Temora longicornis.*
$6\frac{3}{4}$,,	Numerous examples of *Parathemisto* and a minute Isopod—the male of a species belonging to the Chelifera.

Molua molva, Lin.

A number of Ling were examined, the food of which consisted chiefly of small fishes. It has been observed that the Ling, more than any other gadoid, is in the habit, when captured, of ejecting not only its food but also its stomach, turning it inside out just as one turns the finger of a glove, so that when visiting the market it is not uncommon to see Ling with their stomachs protruding from their mouths.

Onus cimbrius, Lin.

Twenty specimens of the Four-Bearded Rockling captured on the Bressay Shoal at a depth of 75 fathoms, on December 11th, 1901, were examined, and the contents of their stomachs recorded. As this species was not included amongst those in my previous paper on fish food, I give a more detailed account of the food observed in this sample from Bressay Shoal. Their sizes ranged from $6\frac{3}{4}$ to $11\frac{3}{4}$ inches, and their food, as shown in the appended tabular account, consisted chiefly of small Crustacea :—

Size of the Fish.	Contents of the Stomach.
$6\frac{3}{4}$ inches.	*Pseudocuma cercaria*, *Metopa nasuta*, and some other Crustacean remains.
$7\frac{1}{4}$,,	*Metopa nasuta* and remains of some other Crustacea.
$7\frac{1}{4}$,,	Remains of Amphipods, but the species doubtful.
$7\frac{3}{8}$,,	*Metopa nasuta* and remains of other Crustacea.
$7\frac{5}{8}$,,	Crustacean remains, but too imperfect for identification.
8 ,,	Contents of stomach similar to the last.
$8\frac{1}{2}$,,	*Erythrops* sp., *Eudorella* sp., *Halimedon parvimanus* ; *Aceros phyllonyx* ; *Cylichna* sp.
9 ,,	*Leucon nasica* (male) and some mucus.
9 ,,	Fragments of *Calocaris macandreæ* ; *Erythrops* sp., *Leucon nasica* ; *Aceros phyllonyx* ; *Physisica marina* ; a young Dragonet, 15 mm. long.
$9\frac{1}{8}$,,	*Metopa nasuta* and a small lamellibranch shell.
$9\frac{1}{2}$,,	This stomach contained only a little mucus.
$9\frac{5}{8}$,,	Remains of two small flat fishes, and fragments of small Crustaceans.
$10\frac{1}{4}$,,	*Metopa nasuta*, and remains of some other Crustaceans.
$10\frac{1}{4}$,,	The food of this stomach consisted of fragments of Crustacea, but too imperfect for identification.
$10\frac{3}{4}$,,	Fragments of *Aceros phyllonyx*, *Eudorella* sp., and Annelids.
$11\frac{1}{4}$,,	The only food observed in this stomach consisted of the remains of Chætopod Annelids.
$11\frac{1}{2}$,,	*Campylaspis* sp. (male) ; *Halimedon parvimanus* ; *Metopa rubrovittata* and *Aceros phyllonyx.*
$11\frac{1}{2}$,,	Fragments of *Aceros phyllonyx* and the remains of some other Crustaceans.
$11\frac{1}{2}$,,	This stomach contained nothing that could be identified.
$11\frac{3}{4}$,,	Remains of Chætopod Annelids only.

Ammodytes tobianus, Lin.

Several immature specimens of the lesser Sand-launce, captured in the North Sea and measuring from 5 to 7 inches in length, were examined, but the only organisms observed in their stomachs were one or two small fragments of Zoophytes.

Drepanopsetta plattessoides (Fabr.).

The examination of twenty-two Long Rough Dabs, chiefly of small size, yielded the following results:—Four contained nothing that could be identified; *Boreophausia* sp. was found in one; *Leptomysis gracilis* (two specimens) occurred in one; and the remains of a Schizopod, the genus and species of which were doubtful, were observed in one. The remains of small Echinoderms, including a minute Echinus, the plates, pedicellariæ, and fragments of the arms of Brittle Star-fishes were obtained in the stomach of twelve of the fishes examined, while the remains of small Annelid tubes were observed in nine. A few specimens of Foraminifera, such as *Globigerina*, *Discorbina*, etc., probably derived from the worm-tubes, were also observed, but these only occurred in three stomachs. One of the fishes measured about seven inches, but the others ranged from three-and-a-half to about four-and-a-quarter inches in length.

Pleuronectes cynoglossus, Linn.

The stomachs of two Pole-dabs or Witches captured on the Fisher Bank were examined, and found to contain a considerable quantity of food; the contents of both were much alike and consisted almost entirely of small Crustaceans, and the following are the species identified:—*Diastylis resima*, *Lamprops rosea*, *Maera loveni* (fragments), *Ampelisca* sp., and the remains of one or two other Cumaceans and Amphipods. Fragments of one or two small Annelids were the only other organisms observed.

Argentina sphyræna, Lin.

A number of Argentines were captured to the eastward of the Shetland Islands in December 1901, and the subsequent examination of their stomachs showed that they had been living chiefly on small Crustacea, Star-fish, and Annelids, but the contents of a considerable proportion of the stomachs were indistinguishable. The following tabulated results will show the nature and amount of the food observed. The lengths of the fishes are in centimetres:—

[TABLE.

Length of the Fish.	Contents of the Stomach.
20·0 centimetres.	The contents of the stomach consisted entirely of the remains of brittle starfishes (*? Amphiura*) and a small quantity of mucus.
20·5 ,,	This stomach contained nothing that could be identified.
20·5 ,,	The only organisms observed in this stomach were a single *Parathemtsto oblivia* and and a *Metopa*, the species of which is doubtful.
20·5 ,,	Five *Parathemisto oblivia*, a *Metopa* (sp. ?) and some Annelid remains.
20·5 ,,	Nothing that could be identified was observed in this stomach.
21·0 ,,	Five *Parathemisto oblivia* and some mucus.
21·0 ,,	The remains of brittle starfishes (probably *Amphiura*) were the only objects that could be determined.
21·0 ,,	This stomach contained nothing that could be distinguished.
21·0 ,,	The objects observed in this stomach were a *Philine*, probably *P. nitida*, but the shell had become too much digested for identification, and the remains of a few Chætopod Annelids.
21·0 ,,	Two *Parapleustes latipes* (M. Sacs) aud fragments of another species of Amphipod.
23·0 ,,	One *Parapleustes latipes*, a minute (young) *Astropecten irregularis*, and the remains of small Chætopod Annelids.
24·0 ,,	Four specimens of *Parathemisto oblivia* were the only organisms that could be determined in this stomach.
24·0 ,,	In this stomach there was nothing that could be identified.

Eight smaller Argentines captured on the Great Fisher Bank in June 1902 were also examined. They measured from 17 to 20 centimetres in length; the food in the stomachs of three specimens was too much decomposed for identification, two others contained fragments of Annelids, and three the remains of small Crustacea—the only form identified being a young *Pandalus*.

Argentina silus (Ascanius).

Two specimens of the Greater Argentine—one from the Fisher Bank, the other from about 57 miles north-west of the Outer Skerries, and captured in April and June 1902, were examined; they each measured about thirteen inches from the base of the tail to the anterior extremity. The only organisms in the stomach of the one from Fisher Bank, perfect enough to be identified, were a number of *Calanus*, while the food observed in the stomach of the other consisted chiefly of the remains of *Nyctiphanes*.

Raia circularis, Couch.

The stomach of a Cuckoo Ray captured at Station VI., Firth of Clyde, on October 25th, 1901, and sent to the Laboratory from the s.s. "Garland," was examined on January 16th, 1902, and the following Crustaceans, etc., were observed in it:—Remains of one or two *Hyas coarctatus*, fragments of *Stenorhynchus*; a whole specimen of *Corystes cassivelaunus*; twenty-two specimens of *Spirontocaris pusiolus*; seven specimens of *Pandalina brevirostris*, one *Virbius varians*; nine specimens of *Ampelisca spinipes*; fragments of *Amphidotus* sp., a small *Solen* sp., and a small Butterfish, *Pholis Gunnellus*; there were also a few specimens of the Annelid species, *Ammotrypane aulogoster*, and fragments of one or two other forms that could not be identified. The size of this specimen of *Raia circularis* was not stated. Another specimen of the same kind of Ray captured in the North Sea and examined on March 14th had some remains of round-fishes in its stomach, but they were too much digested for identification; this specimen measured seventeen-and-a-half inches across the pectoral fins.

Raia batis, Lin.

A specimen of Grey Skate, measuring sixteen-and-a-quarter inches across the pectoral fins, had in its stomach the remains of *Crangon allmanni*, but apparently nothing else.

Raia fullonica, Lin.

A specimen of Fuller's Ray, measuring fifteen-and-a-half inches across the pectoral fins, had also been feeding on Crustacea, but the species could not be determined.

Raia radiata, Donovan.

The stomach of a small Starry Ray was found to contain only the remains of fish too imperfect for identification.

The three fishes referred to above, which had been obtained from a trawling steamer working in the North Sea, were examined in March 1902.

Squalis acanthias, Lin.

A considerable number of Picked Dog-fishes have been examined for ecto- and ento-parasites, and as their stomachs were also examined, I append some observations on the food observed in the stomachs of these specimens. The number of specimens referred to here is twenty-two. They were captured in the North Sea, and forwarded to the Laboratory during the month of March 1902. Eight were examined on the 7th, four on the 14th, and ten on the 26th of the month.

Size of the Fish.	Contents of the Stomach.
3 feet 6½ inches.	Nothing that could be identified.
2 ,, 8½ ,,	Only the remains of round fishes.
2 ,, 7½ ,,	A moderately large Herring.
2 ,, 9½ ,,	Only two small Dabs.
2 ,, 10¼ ,,	The food was very much digested, but consisted apparently of fishes, as the two ear-stones of a small Whiting were obtained.
2 ,, 10½ ,,	Part of a full-grown Herring was observed.
2 ,, 9 ,,	Part of a young Coal-fish.
3 ,, 1½ ,,	The remains of fishes, but the species was not determined.
2 ,, 6 ,,	The remains of one or two Long Rough Dabs.
2 ,, 8½ ,,	The remains of fishes, but the species doubtful.
3 ,, 0 ,,	The contents of this stomach was similar to the last.
2 ,, 5 ,,	Contents similar to the last.
2 ,, 8½ ,,	Fragments of two *Gadus esmarkii*.
2 ,, 11 ,,	Two nearly whole *Gadus esmarkii* and remains of others, also a portion of the testes of a moderately large Gadoid.
2 ,, 6 ,,	The only objects in this stomach that could be distinguished were a few fish eggs.
2 ,, 8 ,,	One small *Gadus esmarkii* and the remains of another.
2 ,, 11 ,,	A Herring about 9½ inches long.
2 ,, 7½ ,,	Fragments of a Lemon Sole about 8 or 9 inches long, a Gadoid about 6½ inches, and the remains of a fish, not determined, about 9 or 10 inches long.
2 ,, 6 ,,	Fragments of a moderately large Herring and a small Gadoid.
2 ,, 6¼ ,,	Remains of a Gadoid and a Sand-eel.
2 ,, 7½ ,,	Fragments of a moderately large Herring, and some other fish remains.
2 ,, 8¼ ,,	Fragments of a large Herring, and other fish remains.

All these Dog-fishes were females. On the gills of several of them *Eudactylines* were moderately frequent, while *Tetrarhynchi* were observed in the stomachs and intestines of all but a few of those examined.

Scylliorhinus canicula, Lin.

The following three specimens of Lesser Spotted Dog-fishes were obtained among the Picked Dog-fishes just referred to. The food observed in their stomachs consisted entirely of fishes as under :—

Size of Fish.	Contents of Stomach.
2 feet 4½ inches.	A Herring 8¾ inches in length.
2 ,, 4¼ ,,	Fragments of a Herring apparently of moderate size.
2 ,, 5¾ ,,	Remains of fishes too imperfect to be determined.

A number of other fishes have been examined, including the Greater Fork-Beard *Phycis blennoides* (Brun.), the Twaite Shad, *Clupea finta*, Cuvier, and the Conger Eel, *Conger niger* (Risso), but as their stomachs did not contain any matter that could be identified they are not specially referred to in this paper. It may be remarked also that several fresh-water Perch, *Perca fluviatilis*, Rondeletius, kindly sent to me by Dr. Williamson from Marlee Loch, Forfarshire, and which were examined to ascertain the nature of their food, were found to have been living almost exclusively on insect larvæ. No parasites were observed on the gills of these fishes, but roundish sacs were frequent on the wall of the body cavity and appeared to contain encysted Cestoids.

Note on the Food observed in the Stomach of a Common Porpoise.

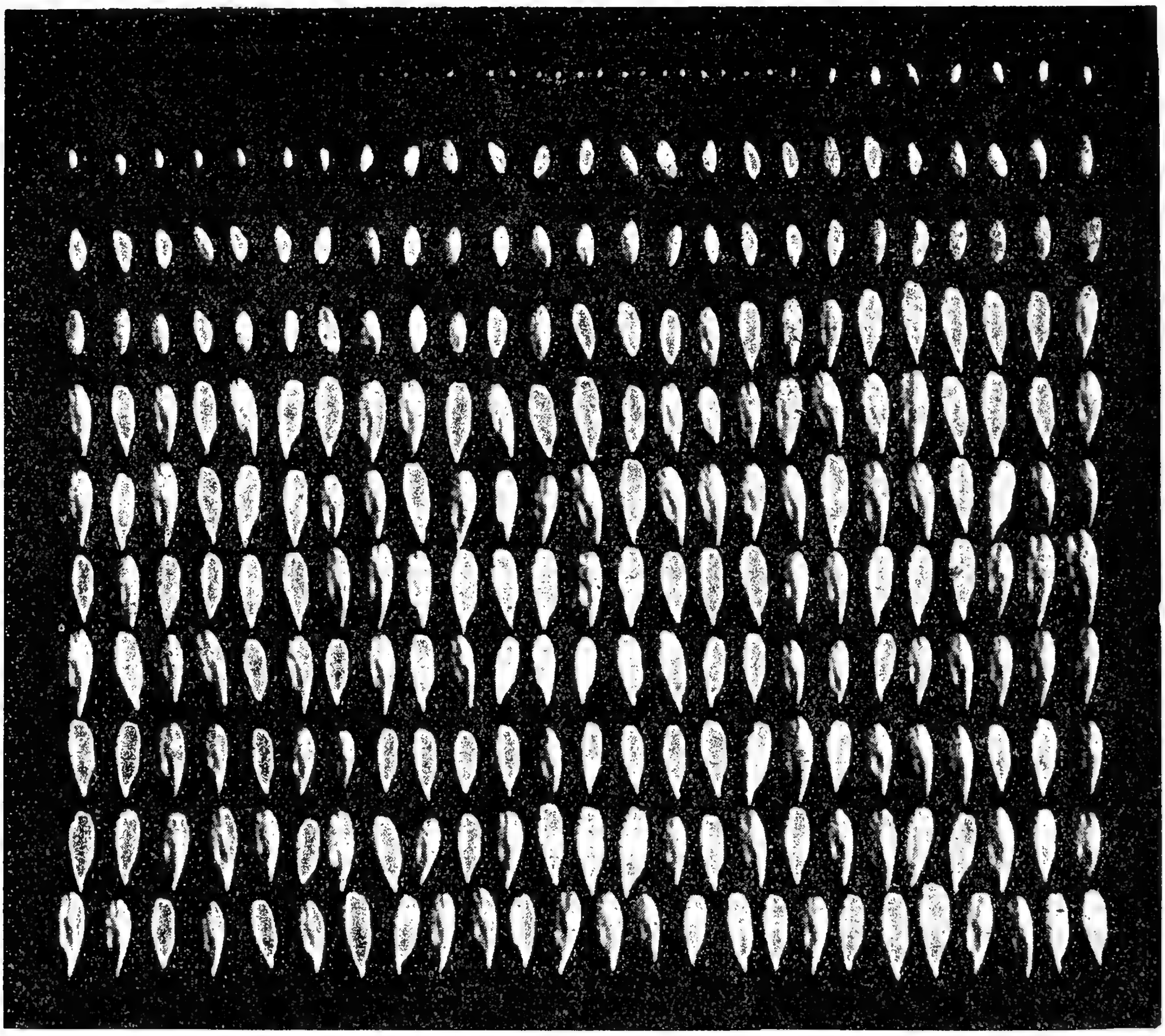
The following description of the contents of the stomach of a Common Porpoise captured in the Bay of Nigg in the vicinity of the Laboratory may be of interest, as serving to show how destructive these Cetaceans may be when they get among a shoal of fishes.

The specimen referred to had become entangled in the nets of the salmon fishers at the Bay of Nigg, and having in this way been prevented from coming to the surface for respiration had been suffocated. It was captured on the 18th of June 1902, and measured about 3 feet 9 inches in length, and it appeared to be healthy and in good condition, except that some of the passages of the liver were crowded with brownish-coloured thread-worms ; what appeared to be the same kind of worms were also found encysted in various parts of the liver, while many of them, in a "free" condition, were found in the stomach.

The only food found in the stomach consisted of the partly digested remains of fishes which, for the most part, appeared to be Whitings. Besides the remains of the soft parts of the fishes, no fewer than two hundred and eighty earstones (or otoliths) were obtained ; fully two hundred and forty of them were almost certainly those of Whitings, the majority of which represented fishes of moderate size—probably about eight inches or so in length. Twelve other otoliths were small and of an oblong form, they were not so attenuated at the ends as the typical Whiting earstone, and appeared to belong to the young of some other Gadoid ; the remainder—about twenty-two in number—were extremely small, and somewhat resembled the earstones of Sand-eels.

One or two of the largest of the Whiting earstones measured ten millimetres in length and a number of them nine millimetres, but the average length would be about eight millimetres. A considerable number of the earstones were found scattered over the surface of the stomach mixed up with the soft partly digested matter, but by far the larger number were found neatly packed together in the narrow distal end of the stomach; these earstones were remarkably clean and perfect. A few of the smaller of the Whiting earstones were slightly eroded by the solvent action of the digestive fluids. It may be mentioned that the intestines, which were of great length, contained very little matter, and no parasites were in them or in the other viscera except those already referred to.

Usually a Whiting has only two earstones, so that the two hundred and forty found in the stomach and which almost certainly belonged to Whitings represented one hundred and twenty fishes, and if each pair of the remainder represented a fish, the earstones found in this stomach would represent one hundred and forty fishes. But, while making every allowance for the voracity of these cetaceans, it is hardly likely that this



Porpoise had taken all these fishes at a single meal; but, judging from the perfect condition of the majority of the earstones, they could not have been long in the stomach. The annexed woodcut is reproduced from a photograph of the earstones as arranged and mounted on a slide.